CLAIMS

1. A cationic peptide which is capable of causing membrane disruption and which does not comprise acidic amino acid.

2. The peptide of claim 1 which does not comprise glutamic amino acid.

3. The peptide of claim 1 or 2 which has a molecular weight of less than 5 kD, preferably of less than 3 kD.

4. The peptide of any one of claims 1 to 3, which comprises the amino acid sequence SEQ ID NO:1, wherein each Xaa is selected independently of one another from the group consisting of lysine (Lys or K), histidine (His or H) and arginine (Arg or R) residues.

5. The peptide of claim 1, which comprises the amino acid sequence of SEQ ID NO:2 or SEQ ID NO:6, or selected in the group of SEQ ID NO: 7 to SEQ ID NO:20.

6. A complex for transferring an anionic substance of interest into a cell comprising:

   (i) at least one peptide of any one of claims 1 to 5,

   (ii) at least one anionic substance of interest.

7. The complex of claim 6, wherein said complex further comprises:

   (iii) at least one ligand capable of cell-specific and/or nuclear targeting ; and/or

   (iv) at least one further peptide which is capable of causing membrane disruption ; and/or

SUB B1

SUB B2

(v) at least one cationic compound selected from the group consisting of cationic lipids and cationic polymers ; and/or

(vi) at least one colipid.

SUB B3

8. The complex of claims 6 or 7, wherein said anionic substance of interest is a nucleic acid.

9. The complex of claim 8, wherein said nucleic acid comprises at least one therapeutically useful gene sequence and elements enabling its expression.

SUB B4

10. The complex of any one of claims 6 to 9, wherein the size of said complex is less than 500 nm.

11. The complex of claim 10, wherein said size is between 20 and 100 nm.

SUB B5

12. The complex of any one of claims 6 to 11, wherein the ratio within said complex between the number of positive charges and the number of negative charges is between 0.05 and 20.

13. The complex of claim 12, wherein said ratio is up to 1.

14. A composition comprising the complex of any one of claims 6 to 13.

SUB B6

15. Use of the complex of any one of claims 6 to 13 for the preparation of a pharmaceutical composition for curative, preventive or vaccine treatment of mammals.

16. Use of a peptide of any one of claims 1 to 5 for the preparation of a complex for transferring an anionic substance of interest into a cell.